

### **ABSTRACT OF THE DISCLOSURE**

1           An integrated multi-step computer-implemented system and method for measuring and  
2   improving manufacturing processes and maximizing product research and development speed and  
3   efficiency is disclosed. The system includes a predictive model that predicts output from data input,  
4   an optimizer that optimizes input variables based upon desired output variables, and a library that  
5   stores data and information. The system further includes an artificial intelligence that receives  
6   requests and information from manufacturers and customers, and directs the requests and  
7   information to the predictive model if an output prediction is requested, to the optimizer if an  
8   optimized input is requested, or to the library if the requests cannot be answered by the predictive  
9   model or optimizer. The predictive model, the optimizer, and the library all interconnect with the  
10   artificial intelligence. The system further includes a high-throughput screening system that analyzes  
11   various material combinations and sends data to the library.